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CFETP 2A7X2  
Parts I and II  
MAY 1999

# AFSC 2A7X2

## NONDESTRUCTIVE INSPECTION



## CAREER FIELD EDUCATION AND TRAINING PLAN



CAREER FIELD EDUCATION AND TRAINING PLAN  
NONDESTRUCTIVE INSPECTION SPECIALTY  
AFSC 2A7X2

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Approved By: HQ USAF/ILMM, CMSgt Timothy Jones  
OPR: 361 TRS/TRR (Charles Hines)  
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**NONDESTRUCTIVE INSPECTION SPECIALTY**  
**AFSC 2A7X2**  
**CAREER FIELD EDUCATION AND TRAINING PLAN**

**PART I**

*Preface*

1. This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education/training requirements, training support resources, and minimum core task requirements for this specialty. The CFETP will provide personnel a clear career path to success and instill rigor in all aspects of career field training. To read, review, or print a copy of the current CFETP, go to the Aircraft Maintenance Homepage at: <http://www.il.hq.af.mil/ilm/ilmm/acmaint/index.html>. **NOTE:** Civilians occupying associated positions will use Part II to support duty position qualification training.

2. The CFETP consists of two parts; both parts of the plan are used by supervisors to plan, manage, and control training within the career field.

2.1. Part I provides information necessary for overall management of the specialty. Section A explains how everyone will use the plan. Section B identifies career field progression information, duties and responsibilities, training strategies, and career field path. Section C associates each level with specialty qualifications (knowledge, education, training, and other). Section D indicates resource constraints. Some examples are funds, manpower, equipment, and facilities. Section E identifies transition training guide requirements to support career field restructures.

2.2. Part II includes the following: Section A identifies the Specialty Training Standard (STS) and includes duties, tasks, and technical references to support training; Air Education and Training Command (AETC) conducted training; wartime course requirements; core tasks; and correspondence course requirements. Section B contains the course objective list and training standards supervisors use to determine if airmen satisfied training requirements. Section C identifies available support materials. An example is a Qualification Training Package (QTP) developed to support proficiency training. These QTP packages are identified in AFIND8, *Numerical Index of Specialized Education/Training Publications*. Section D identifies a training course index supervisors use to determine resources available to support training; included here are both mandatory and optional courses. Section E identifies MAJCOM unique training requirements supervisors use to determine additional training requirements unique to the MAJCOM.

3. Using guidance provided in the CFETP will ensure individuals in this specialty receive effective and efficient training at the appropriate point in their career. This plan will enable us to train today's work force for tomorrow's jobs. At unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall goals of this plan.

## ***ABBREVIATIONS/TERMS EXPLAINED***

**Advanced Training (AT).** Formal course which provides individuals who are qualified in one or more positions of their Air Force Specialty (AFS) with additional skills/knowledge to enhance their expertise in the career field. Training is for selected career airmen at the advanced level of the AFS.

**Air Force Job Qualification Standard (AFJQS).** A comprehensive task list which describes a particular job type or duty position. They are used by supervisors to document task qualifications. The tasks on an AFJQS are common to all persons serving in the described duty position.

**Career Field Education and Training Plan (CFETP).** A CFETP is a comprehensive, multipurpose document covering the entire spectrum of education and training for a career field. It outlines a logical growth plan that includes training resources and is designed to make career field training identifiable, to eliminate duplication, and to ensure training is budget defensible.

**Certification.** A formal indication of an individual's ability to perform a task to required standards.

**Certification Official.** A person the commander assigns to determine an individual's ability to perform a task to required standards.

**Continuation Training.** Additional training exceeding requirements with emphasis on present or future duty assignments.

**Core Task.** A task Air Force Career Field Managers (AFCFMs) identify as a minimum qualification requirement within an Air Force specialty regardless of duty position. Core tasks identified with an \*/R are optional for AFRC and ANG.

**Course Objective List (COL).** A publication identifying the tasks and knowledge requirements and respective standards provided to achieve a 3-/7-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with AFI 36-2201, *Developing, Managing and Conducting Training*.

**Enlisted Specialty Training (EST).** A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade airmen in each skill level of a specialty.

**Exportable Training.** Additional training via computer assisted, paper text, interactive video, or other necessary means to supplement training.

**Field Technical Training (Type 4).** Special or regular on-site training conducted by a Training Detachment (TD) or by a mobile training team (MTT).

**Initial Skills Training.** A formal resident course which results in award of a 3-skill level AFSC.

**Instructional System Development (ISD).** A deliberate and orderly process for developing, validating, and reviewing instructional programs that ensures personnel are taught the knowledge and skills essential for successful job performance.

**Mission Ready Technician.** A formal course which results in an airman receiving hands-on training and task certification of selected tasks so the individual will be immediately productive upon arrival at their first duty section.

**Occupational Survey Report (OSR).** A detailed report showing the results of an occupational survey of tasks performed within a particular AFS.

**On-the-Job Training (OJT).** Hands-on, over-the-shoulder training at the duty location used to certify personnel for both skill level upgrade and duty position qualification.

**Qualification Training (QT).** Actual hands-on task performance training designed to qualify an airman in a specific duty position. This training occurs both during and after the upgrade training process. It is designed to provide the performance skill/knowledge training required to do the job.

**Qualification Training Package (QTP).** An instructional package designed for use at the unit to qualify, or aid qualification, in a duty position or program, or on a piece of equipment. It may be printed, computer-based, or in other audiovisual media.

**Resource Constraints.** Resource deficiencies, such as money, facilities, time, manpower, and equipment, that preclude desired training from being delivered.

**Specialized Training Package and COMSEC Qualification Training Package.** A composite of lesson plans, test material, instructions, policy, doctrine, and procedures necessary to conduct training. These packages are prepared by AETC, approved by the National Security Agency (NSA), and administered by qualified communications security (COMSEC) maintenance personnel.

**Specialty Training Standard (STS).** An Air Force publication that describes an Air Force specialty in terms of tasks and knowledge an airman may be expected to perform or to know on the job. It serves as a contract between Air Education and Training Command and the functional user to show which of the overall training requirements for an Air Force Specialty Code are taught in formal schools, career development courses, and exportable courses.

**Training Impact Decision System (TIDES).** A computer-based decision support technology being designed to assist AFCFMs in making critical judgments relevant to what training should be provided personnel within career fields, when training should be provided (at what career points), and where training should be conducted (training setting).

**Upgrade Training (UGT).** A mixture of mandatory courses, task qualification, QTPs, and CDCs required for award of the 3-, 5-, 7-, or 9-skill level.

**Utilization and Training Workshop (U&TW).** A forum made up of the Air Force Career Field Manager (AFCFM), MAJCOM Air Force Specialty Code (AFSC) Functional Managers, Subject Matter Experts (SME), and AETC personnel who determine career path training requirements.

### ***Section A - General Information***

**1. Purpose.** This CFETP provides information necessary for Air Force Career Field Managers (AFCFMs), MAJCOM functional managers (MFMs), commanders, training managers, supervisors, and trainers to plan, develop, manage, and conduct an effective career field training program. This plan outlines the training that individuals in AFSC 2A7X2 should receive to develop and progress throughout their career. This plan identifies initial skills, upgrade, qualification, advanced, and proficiency training. Initial skills training is the AFS specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. Normally, this training is conducted by AETC at one or more of the technical training centers. Upgrade training identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 3-, 5-, 7-, 9-skill levels. Qualification training is actual hands-on task performance training designed to qualify an airman in a specific duty position. This training program occurs both during and after the upgrade training process. It is designed to provide the performance skills/knowledge required to do the job. Advanced training is formal specialty training used for selected airmen. Proficiency training is additional training, either in-residence or exportable advanced training courses or on-the-job training, provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade. The CFETP has several purposes, some are:

- 1.1. Serves as a management tool to plan, manage, conduct, and evaluate a career field training program. Also, it is used to help supervisors identify training at the appropriate point in an individual's career.
- 1.2. Identifies task and knowledge training requirements for each skill level in the specialty and recommends education/training throughout each phase of an individual's career.
- 1.3. Lists training courses available in the specialty, identifies sources of training, and the training delivery method.
- 1.4. Identifies major resource constraints which impact full implementation of the desired career field training process.

**2. Uses.** The plan will be used by MFMs and supervisors at all levels to ensure comprehensive and cohesive training programs are available for each individual in the specialty.

- 2.1. AETC training personnel will develop/revise formal resident, non-resident, field and exportable training based on requirements established by the users and documented in Part II of the CFETP. They will also work with the AFCFM to develop acquisition strategies for obtaining resources needed to provide the identified training.
- 2.2. MFMs will ensure their training programs complement the CFETP mandatory initial, upgrade, and proficiency requirements. Identified requirements can be satisfied by OJT, resident training, contract training, or exportable courses. MAJCOM-developed mandatory training to support this AFS must be identified for inclusion into the plan and must not duplicate other available training resources.

2.3. Each individual will complete the mandatory training requirements specified in this plan. The lists of courses in Part II will be used as a reference to support training.

**3. Coordination and Approval.** The AFCFM is the approval authority. MAJCOM representatives and AETC training personnel will identify and coordinate on the career field training requirements. The AETC training manager for this specialty will initiate an annual review of this document by AETC and MFMs to ensure currency and accuracy. Using the list of courses in Part II, they will eliminate duplicate training.

## ***Section B - Career Progression and Information***

### **4. Specialty Description.**

**4.1. Specialty Summary.** Determines test method; prepares for inspection; and interprets and evaluates indications of test method applied to detect discontinuities and flaws in missile, aircraft, and aerospace ground support equipment and component parts; pressurized systems, and fluid systems. Related DoD Occupational Subgroup: 760.

#### **4.2. Duties and Responsibilities.**

**4.2.1.** Determines test method; prepares for inspection; and interprets and evaluates indications of test method applied to detect discontinuities and flaws in missile, aircraft, and aerospace ground support equipment and component parts; pressurized systems; and fluid systems. Determines test method and prepares fluids and parts for nondestructive inspection. Determines the test method best suited for the part. Prepares used engine lubricating oil and other fluid samples for spectrometric oil analysis, and evaluates test results. Performs nondestructive tests, and interprets and evaluates test indications. Performs selected test method to identify discontinuities and flaws in component parts and integrity of pressurized systems associated with missile, aircraft, and aerospace ground support equipment by examining with magnetic particle, ultrasonic, eddy current, radiographic, optical, and penetrant equipment and materials. Measures thickness of materials. Performs bond testing. Interprets and evaluates indications revealed by tests. Operates and maintains nondestructive test equipment. Operates and performs operator maintenance on portable and fixed magnetic particle testers, fluorescent and visible penetrant test equipment, ultrasonic test equipment, eddy current test equipment, and radiographic equipment. Operates and performs operator maintenance on oil analysis spectrometers. Prepares and maintains magnetic particle baths for purity and concentration. Develops exposure charts to compute exposure data for radiographic techniques employed. Maintains and cleans darkroom equipment such as film holders, lead screens, reading lights, and film storage facilities. Performs silver recovery functions. Establishes and monitors radiation areas during radiographic operations. Uses applicable Technical Orders to comply with inspection procedures. Records pertinent data in Job Data Documentation (JDD) in the Automated Maintenance Systems. Recommends methods to improve equipment performance and maintenance procedures. Handles, labels, and disposes of hazardous materials and waste according to environmental standards.

**4.2.2.** Inspects Aerospace/Non-aerospace components and pressurized systems; interprets, evaluates, and utilizes trend analysis on indications of test methods. Maintains test equipment. Selects and performs nondestructive inspection by examining material parts, components, and pressurized systems of missile, aircraft, and aerospace ground support equipment. Operates and



uses florescent, liquid penetrant, eddy current, magnetic particle, radiographic, optical, and ultrasonic equipment and techniques. Observes, measures, and detects discontinuities, flaws, and other defects such as cracks, inclusions, voids, blow holes, seams, and laps not discernible by orthodox visual methods. Evaluates physical state of materials such as sorting metal according to alloy, temper, conductivity, and other metallurgical factors. Evaluates surface or subsurface discontinuities, flaws, or defects in substances, and use and integrity of pressurized systems. Measures thickness of materials. Performs bond testing. Operates and performs operator maintenance on nondestructive test and oil analysis equipment. Interprets and evaluates indications of test method. Interprets and evaluates tests by analysis of indications such as ultrasonic wave traveling through, or being reflected or absorbed by metallic or nonmetallic material to detect discontinuities; variations in electrical characteristics and energy losses in detecting and measuring depths of discontinuities or flaws and visual results of liquid penetrant seepage. Measures fire and heat damage. Evaluates quantity of the wear metals in fluid samples through spectrometric oil analysis. Inspects and evaluates nondestructive inspection activities. Conducts inspections of work activities and functions. Checks for compliance with technical orders, safety directives, and policy. Evaluates recommended methods to improve equipment performance and maintenance procedures.

4.2.3. Manages activities in accomplishing aircraft structural maintenance, metals technology, survival equipment maintenance, and nondestructive inspection. Plans, organizes, and directs aircraft fabrication maintenance, including environmentally safe practices. Establishes production controls and standards. Analyzes maintenance management reports. Determines resource requirements including equipment, facilities, and supplies. Coordinates with other activities to improve procedures and resolve problems. Directs maintenance personnel employed in removing, disassembling, inspecting, repairing, treating corrosion, reassembling, installing, testing, and modifying aircraft structural components, survival equipment, and local manufacturing activities. Solves aircraft fabrication maintenance and support equipment repair problems. Inspects and evaluates fabrication maintenance activities. Evaluates completed work to determine operational status and compliance with directives, policies, and work standards. Manages resources, interprets inspection findings, and recommends corrective action.

**5. Skill/Career Progression.** Adequate training and timely progression from the apprentice to the superintendent skill level play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training do their part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure each individual receives necessary training at appropriate points in their career. The following narrative and AFSC 2A7X2 career field table identify the skill/career progression.

**5.1. Apprentice (3) Level.** Following Basic Military Training, initial skills training will be provided in a resident course at Detachment 2, 361st Training Squadron, Naval Air Station, Pensacola, Florida. The course will lay the foundation for additional training at the graduate's first duty assignment. Trainees will utilize the Career Development Course (CDC), task qualification training, and other exportable courses to progress in their career field. Once the trainee is task certified, the trainee may perform the task unsupervised.

**5.2. Journeyman (5) Level.** Once upgraded to the 5-level, the journeyman will enter into continuation training to broaden their experience base by increasing their knowledge and skill in troubleshooting and solving more complex problems. Five-levels may be assigned job positions

such as quality assurance and various staff positions. After having 48 months in the Air Force, 5-levels will attend Airman Leadership School (ALS) to enhance their Professional Military Education (PME). Five levels will be considered for appointment as unit trainers. Individuals will use their CDCs to prepare for Weighted Airman Promotion testing. They should also consider continuing their education toward a Community College of the Air Force (CCAF) degree.

**5.3. Craftsman (7) Level.** A craftsman can expect to fill various supervisory and management positions such as shift leader, element chief, flight chief, task certifier, and various staff positions. Exportable MDS specific courses and MAJCOM/unit directed courses are also available. Seven-levels should take courses or obtain added knowledge of management of resources and personnel. Continued academic education through CCAF and higher degree programs is encouraged. In addition, when promoted to TSgt, individuals will attend the Noncommissioned Officer Academy.

**5.4. Superintendent (9) Level.** A 9-level can be expected to fill positions such as flight NCOIC, production supervisor, and various staff NCOIC jobs. Additional training in the areas of budget, manpower, resources, and personnel management should be pursued through continuing education. Individuals promoted to SMSgt will attend the Senior Noncommissioned Officer Academy. Additional higher education and completion of courses outside their career AFS is also recommended.

**6. Training Decisions.** The CFETP uses a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the Nondestructive Inspection career field. The spectrum includes a strategy for when, where, and how to meet these training requirements. The strategy must ensure we develop affordable training, eliminate duplication, and prevent a fragmented approach to training. The following training decisions were based on a career field Utilization and Training Workshop (U&TW) held 11-15 January 1999 at Naval Air Station, Pensacola, Florida.

**6.1. Initial Skills.** Recommended changes to the 3-level course included acquisition of a F-15 aircraft to enhance eddy current and ultrasonic inspection techniques on curved surfaces, confined spaces, heights, and a wider variety of metals and composites. Performance training was increased on use of optical equipment to evaluate indications and bond testing using mechanical impedance analysis, resonance, and pitch-catch tests. Also, training was lowered on liquid penetrant inspection method "A" and "B".

**6.2. Five Level Upgrade Requirements.** The 5-level CDC will be updated to provide knowledge training to support OJT and core task qualification training identified in the new CFETP. Information added to the 5-level CDC will include: automated maintenance data collection systems (GO81, CAMS, and IMDS), aircraft markings, weld certification, deployment kits, mechanical impedance analysis, resonance, and pitch-catch. Supply management information in the new CDC will be reduced from "B" to "A".

**6.3. Seven Level Upgrade Requirements.** The group decided to eliminate the current 7-level technical CDC and make the 2AX7X CDC mandatory for upgrade in this career field. Changes to the 7-level course included adding bond testing inspections, bond testing advanced composites, radiographic interpretation, and joint oil analysis program.

**6.4. Continuation Training.** Any additional knowledge and skill requirements which were not taught through initial or upgrade training are assigned to unit training or Training Detachments.

The purpose of the continuation training program is to provide additional training exceeding minimum upgrade training requirements with emphasis on present and future duty position. MAJCOMs develop a proficiency training program that ensures individuals in the Nondestructive Inspection career field receive the necessary training at the appropriate point in their career. The program identifies both mandatory and optional training requirements.

**7. Community College of the Air Force.** Enrollment in CCAF occurs upon completion of basic military training. CCAF provides the opportunity to obtain an Associates in Applied Sciences Degree. In addition to its associates degree program, CCAF offers the following:

**7.1. Occupational Instructor Certification.** Upon completion of instructor qualification training, consisting of the Basic Instructor Course (BIC) and supervised practice teaching, CCAF instructors who possess an associates degree or higher may be nominated by their school commander/commandant for certification as an occupational instructor.

**7.2. Trade Skill Certification.** When a CCAF student separates or retires, a trade skill certification is awarded for the primary occupational specialty. The College uses a competency based assessment process for trade skill certification at one of four proficiency levels: Apprentice, Journeyman, Craftsman/Supervisor, or Master Craftsman/Manager. All are transcribed on the CCAF transcript.

**7.3. Degree Requirements.** All airmen are automatically entered into the CCAF program. Prior to completing an associates degree, the 5-level must be awarded and the following requirements must be met:

	Semester Hours
Technical Education	24
Leadership, Management, and Military Studies	6
Physical Education	4
General Education	15
Program Elective	15
(Technical Education; Leadership, Management, and Military Studies; or General Education)	
Total	64

**7.3.1. Technical Education** (24 Semester Hours): Completion of the J3ABP2A7X2 000 course satisfies some semester hours of the technical education requirements. A minimum of 12 semester hours of Technical Core subjects/courses must be applied and the remaining semester hours applied from Technical Core/Technical Elective courses.

**7.3.2. Leadership, Management, and Military Studies** (6 Semester Hours): Professional military education and/or civilian management courses.

**7.3.3. Physical Education** (4 Semester Hours): This requirement is satisfied by completion of Basic Military Training.

**7.3.4. General Education** (15 Semester Hours): Applicable courses must meet the criteria for application of courses to the General Education Requirements (GER) and be in agreement with the definitions of applicable General Education subjects/courses as provided in the CCAF General Catalog.

7.3.5. **Program Elective** (15 Semester Hours): Satisfied with applicable Technical Education; Leadership, Management, and Military Studies; or General Education subjects/courses, including natural science courses meeting GER application criteria. Six semester hours of CCAF degree applicable technical credit otherwise not applicable to this program may be applied. See the CCAF General Catalog for details regarding the Associates of Applied Science for this specialty.

7.4. **AETC Instructor Requirements:** Additional off-duty education is a personal choice that is encouraged for all. Individuals desiring to become an Air Education and Training Command instructor should be actively pursuing an associates degree. A degreed faculty is necessary to maintain accreditation through the Southern Association of Colleges and Schools.

## 8. Career Field Path.

### 8.1. Enlisted Career Path:

<b>Table 8.1. Enlisted Career Path</b>				
<b>Education and Training Requirements</b>	<b>Grade Requirements</b>			
	Rank	Average Sew-On	Earliest Sew-On	High Year Of Tenure (HYT)
<b>Basic Military Training School</b>				
<b>Apprentice Technical School (3-Skill Level)</b>	Amn A1C	6 months 16 months		
<b>Upgrade To Journeyman (5-Skill Level)</b> - Minimum 15 months on-the-job training. - Complete all 5-level core tasks on one MDS. - Complete appropriate CDC if/when available.	Amn A1C SrA	6 months 16 months 3 years	28 months	10 Years
<b>Airman Leadership School (ALS)</b> - Must be a SrA with 48 months time in service or be a SSgt Selectee. - Resident graduation is a prerequisite for SSgt sew-on (Active Duty Only).				
<b><u>Trainer</u></b> - Qualified and certified to perform the task to be trained. - Have attended the formal trainer's course and be appointed in writing by Commander.	<b><u>Certifier</u></b> - Be at least a 5-skill level SSgt; and qualified and certified to perform the task being certified. - Attend formal certifier course and appointed in writing by Commander. - Be a person other than the trainer.			
<b>Upgrade To Craftsman (7-Skill Level)</b> - Minimum rank of SSgt. - Complete all 5- and 7-level core tasks on one MDS. - 18 months OJT. - Complete appropriate CDC if/when available. - Advanced Technical School.	SSgt	7.5 years	3 years	20 Years
<b>Noncommissioned Officer Academy (NCOA)</b> - Must be a TSgt or TSgt Selectee. - Resident graduation is a prerequisite for MSgt sew-on (Active Duty Only).	TSgt	12.5 years	5 years	20 Years
	MSgt	16 years	8 years	24 Years
<b>USAF Senior NCO Academy (SNCOA)</b> - Must be a SMSgt or SMSgt Selectee. - A percentage of top nonselect (for promotion to E-8) MSgts attend the SNCOA each year. - Resident graduation is a prerequisite for CMSgt sew-on (Active Duty Only).	SMSgt	19.2 years	11 years	26 Years
<b>Upgrade To Superintendent (9-Skill Level)</b> - Minimum rank of SMSgt. - Must be a resident graduate of SNCOA (Active Duty Only).	CMSgt	21.5 years	14 years	30 Years

## 8.2. Base/Unit Education and Training Manager Checklist:

Table 8.2. Base/Unit Education and Training Manager Checklist		
Requirements for Upgrade to:	Y	N
<b>Journeyman</b> - Has the apprentice completed mandatory CDCs, if available? - Has the apprentice completed all 5-level core tasks on one MDS aircraft identified in the CFETP? - Has the apprentice completed all other duty position tasks identified by the supervisor? - Has the apprentice completed 15 months upgrade training (9 months for retrainees)? - Has the apprentice met mandatory requirements listed in specialty description, AFMAN 36-2108, (Airman Classification), and the CFETP? - Has the apprentice been recommended by their supervisor?		
<b>Craftsman</b> - Has the journeyman achieved the rank of SSgt? - Has the journeyman completed mandatory CDCs, if available? - Has the journeyman completed all 5- and 7-level core tasks on one MDS aircraft identified in the CFETP? - Has the journeyman completed all duty position tasks identified by the supervisor? - Has the journeyman attended 7-skill level Craftsman Course (if available)? <b>First, they must complete:</b> -- All 5- and 7-level core and duty position training requirements listed in the CFETP. -- All applicable mandatory CDCs and/or exportable courses. -- A minimum of 12 months UGT (6 months for retrainees). - Has the journeyman completed a minimum 18 months UGT (12 months for retrainees) for award of the 7-skill level?		

TO: Squadron/CC

FROM: Squadron Training Manager

SUBJECT: Upgrade \_\_\_\_\_ (Trainee Name)

Trainee is prepared to be upgraded and has completed all mandatory training requirements.  
 Supervisor recommends upgrade.

\_\_\_\_\_  
 Training Manager

\_\_\_\_\_  
 Supervisor

## ***Section C - Skill Level Training Requirements***

**9. Purpose.** Skill level training requirements in the 2A7X2 career field are defined in terms of tasks and knowledge requirements. This section outlines the specialty qualification requirements for each skill level in broad, general terms and establishes the mandatory requirements for entry, award, and retention of each skill level. The specific task and knowledge training requirements are identified in the STS at Part II, Sections A and B of this CFETP.

### **10. Specialty Qualification:**

#### **10.1. Apprentice Level Training:**

**10.1.1. Specialty Qualification.** This information is located in the official specialty description in AFMAN 36-2108, paragraph 3.

**10.1.1.1. Knowledge.** Knowledge is mandatory of: characteristics of metal identification; wear metals identification and content; metal discontinuity and flaw detection; operation and maintenance of nondestructive test and oil analysis equipment; safety codes and practices; radiological safety and radiation monitoring procedures; technical orders and directives; and proper handling, use, and disposal of hazardous waste and materials.

**10.1.1.2. Education.** For entry into this specialty, completion of high school with courses in mathematics, chemistry, industrial technology, physics, and shop is desirable. Also, completion of computer knowledge courses is desirable.

**10.1.1.3. Training.** For award of AFSC 2A732, completion of the Nondestructive Inspection Apprentice course is mandatory.

**10.1.1.4. Experience.** None.

**10.1.1.5. Other.** For entry into this specialty, normal color vision as defined in AFI 48-123, *Medical Examination and Standards*, is mandatory. For entry in and award of this AFSC, minimum age is 18 years.

**10.1.2. Training Sources and Resources.** The 3-level initial skills course will provide the required knowledge, qualification, and, if applicable, certification.

**10.1.3. Implementation.** Upon graduation from Basic Military Training (BMT), completion of J3ABP2A732 000 is required to satisfy the knowledge and training resource requirements for award of the 3-skill level.

#### **10.2. Journeyman Level Training:**

**10.2.1. Specialty Qualification.** This information is located in the official specialty description in AFMAN 36-2108, paragraph 3.

**10.2.1.1. Knowledge.** In addition to the 3-level qualifications, a 5-skill level must possess knowledge of: characteristics of metals identification; wear metals identification and content; metal discontinuity and flaw detection; operation and maintenance of nondestructive test and oil analysis equipment; safety codes and practices; radiological safety and radiation monitoring procedures; technical orders and directives; and proper handling, use, and disposal of hazardous waste and materials.

**10.2.1.2. Education.** There are no additional education requirements beyond those defined for the apprentice level. However, completion of a CCAF degree is desirable.

**10.2.1.3. Training.** For award of AFSC 2A752, the 5-level CDC provides the career knowledge training required. Qualification training and OJT will provide training and qualification on the

core tasks identified in the STS. The CDC is written to build from the trainee's current knowledge base, and provides more in-depth knowledge to support OJT requirements.

10.2.1.4. **Experience.** Qualification in and possession of AFS 2A732. Also, experience in flaw detection process controls, equipment calibration and maintenance, safety directives, and hazardous waste programs. Completion of all 5-level core tasks identified in the STS is mandatory.

10.2.1.5. **Other.** For entry into this specialty, normal color vision as defined in AFI 48-123 is mandatory. For entry in and award of this AFSC, minimum age is 18 years.

10.2.2. **Training Sources and Resources.** A minimum of 15 months on-the-job training, completion of the 2A752 CDC, and completion of 5-level core tasks represent the resources needed for award of the 5-skill level.

10.2.3. **Implementation.** Training to the 5-level is performed by the units utilizing this STS, exportable courses, and CDCs. Upgrade to the 5-level requires completion of CDC 2A752 and 15 months upgrade training.

### 10.3. **Craftsman Level Training:**

10.3.1 **Specialty Qualification.** This information is located in the official specialty description in AFMAN 36-2108, paragraph 3.

10.3.1.1. **Knowledge.** A 7-level must possess advanced skills and knowledge of: characteristics of metals identification; wear metals identification and content; metal discontinuity and flaw detection; operation and maintenance of nondestructive test and oil analysis equipment; safety codes and practices; radiological safety and radiation monitoring procedures; technical orders and directives; and proper handling, use, and disposal of hazardous waste and materials.

10.3.1.2. **Education.** There are no additional education requirements beyond those defined for the apprentice level. However, completion of a CCAF degree is desirable.

10.3.1.3. **Training.** Completion of the mandatory 2AX7X CDC, 7-level core tasks, and the resident 7-level course are mandatory for upgrade to 2A772.

10.3.1.4. **Experience.** Qualification in and possession of AFS 2A752. Completion of all 5- and 7-level core tasks identified in the STS is mandatory.

10.3.1.5. **Other.** For award and retention of this specialty, normal color vision as defined in AFI 48-123 is mandatory. For entry in and award of this AFSC, minimum age is 18 years.

10.3.2. **Training Sources and Resources.** Completion of the J3ACP2A772 000, Nondestructive Inspection Craftsman course, completion of CDC 2AX7X, along with supervisor certification of Air Force directed core tasks represent the resources required for award of the 7-skill level. The Course Objective List (COL) listed in Part II lists the training rendered at the 7-level resident course at Naval Air Station, Pensacola, Florida.

10.3.3. **Implementation.** Upgrade to the 7-level will require completion of all AF core tasks, 18 months OJT as a SSgt or SSgt selectee, completion of the 7-level 2AX7X CDC and resident 7-level course at Naval Air Station, Pensacola, Florida. Completion of all 5- and 7-level core tasks, the 2AX7X CDC, and 12 months OJT as a SSgt or SSgt selectee (6 months for retrainee) will be completed before attending the resident course.

### 10.4. **Superintendent Level Training:**

10.4.1 **Specialty Qualification.** This information is located in the official specialty description in AFMAN 36-2108, paragraph 3.

10.4.1.1. **Knowledge.** Knowledge is mandatory of: aircraft structural maintenance, metals technology, survival equipment, and nondestructive inspection methods; characteristics and



directives; maintenance data reporting; and proper handling, storage, use, and disposal of hazardous waste and materials.

10.4.1.2. **Education.** There are no additional education requirements beyond those defined for the apprentice level. However, completion of a CCAF degree is desirable.

10.4.1.3. **Training.** For award of AFSC 2A790, completion of the Senior NCO Academy in residence and unit OJT is mandatory.

10.4.1.4. **Experience.** For award of AFSC 2A790, qualification in and possession of AFSC 2A771, 2A772, 2A773, or 2A774 is mandatory. Also, experience in managing or directing functions such as structural maintenance, metals technology, survival equipment, or non-destructive inspection specialties are mandatory.

10.4.1.5. **Other.** Not Used.

10.4.2. **Training Sources/Resources.** Instruction received at the Senior NCO Academy and duty position qualification represent the required resources for upgrade to the 9-skill level.

10.4.3. **Implementation.** The 9-level will be awarded after completing MAJCOM requirements, unit OJT, and promotion to SMSgt. Individuals will attend the Senior NCO Academy after they are selected for promotion to SMSgt.

#### ***Section D - Resource Constraints***

**11. Purpose.** This section identifies known resource constraints which preclude optimal/desired training from being developed or conducted, including information such as cost and manpower. Narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training are included. Also included in this section are actions required, office of primary responsibility, and target completion dates. Resource constraints will be, as a minimum, reviewed and updated annually.

#### **12. Apprentice Level Training:**

12.1. **Fundamental Training Requirements Constraints.** Insufficient state-of-the-art equipment and realistic aircraft for performing NDI testing. (NOTE: This constraint applies to both the 3- and 7-level courses).

12.1.1. **Impact.** Cannot provide realistic eddy current and ultrasonic inspection training to desired MAJCOM levels unless additional equipment and another type of aircraft is provided.

12.1.2. **Resources Required.** One F-15 aircraft, 20 USD-52 ultrasonic units.

12.1.3. **Action Required.** 361 TRS/Det 2 coordinate F-15 aircraft parking space for NDI training with Navy. Submit request for F-15 aircraft IAW AFI 16-402 AETC Sup 1 and continue to work procurement of testing equipment through supply/depot channels.

12.1.4. **OPR/Target Completion Date.** 361 TRS/Det 2/November 1999

#### **13. Five Level Training:**

13.1. **Fundamental Training Requirements Constraints.** The Army J3AZP2A752 004 Department of Defense Joint Oil Analysis Program (JOAP) Ferrography Testing course requires a Passport Plus test set.

13.1.1. **Impact.** Army personnel attending the above course do not receive training on the Passport Plus test set.

13.1.2. **Resources Required.** One Passport Plus test set.

13.1.3. **Action Required.** The U.S. Army has the Passport Plus test set on hand and needs to turn it over to 361 TRS/Det 2 for inclusion into the course.

13.1.4. **OPR/ Target Completion Date.** U.S. Army/361 TRS/Det 2/December 1999. Training on this test set will activate when the 361 TRS/Det 2 receives the test set.

#### **14. Seven-Level Training.**

14.1. **Fundamental Training Requirements Constraints.** Insufficient state-of-the-art testing equipment and aircraft for performing realistic NDI testing. (NOTE: This constraint applies to both the 3- and 7-level course).

14.1.1. **Impact.** Cannot provide adequate training on bond testing inspection, bond testing advanced composites, radiographic interpretation, and joint oil analysis to the desired MAJCOM levels.

14.1.2. **Resources Required.** One F-15 aircraft, 10 hand held eddy current units, 20 USD-52 ultrasonic units.

14.1.3. **Action Required.** 361 TRS/Det 2 coordinate F-15 aircraft parking space for NDI training with Navy. 361 TRS/Det 2 submit request for one F-15 aircraft IAW AFI 16-402 AETC Sup 1 and continue to work procurement of additional testing equipment through supply/depot channels.

14.1.4. **OPR/ Target Completion Date.** 361 TRS/Det 2/November 1999.

**Section E. - Transitional Training Guide.** There are no transition training requirements. This area is reserved.

## PART II

### *Section A - Specialty Training Standard*

**1. Implementation.** This STS will be used for technical training provided by Air Education and Training Command for classes beginning on 000104 and graduating on 000314.

**2. Purpose of this STS.** As prescribed in AFI 36-2202 and AFMAN 36-2247, this STS:

2.1. Lists in column 1 (Task, Knowledge, and Technical References) the most common tasks, knowledge, and technical references (TR) necessary for airmen to perform duties in the 3-, 5-, and 7-skill level. These are based on an analysis of the duties in AFMAN 36-2108, effective April 1999.

2.2. Identifies in column 2 (Core Tasks) by asterisk (\*), specialty-wide training requirements. Core tasks identified with an \*/R are optional for the AFRC and the ANG. As a minimum, certification on all core tasks applicable to the specialty must be completed for skill level upgrade. Exemptions:

2.2.1. Core tasks which are not applicable to base assigned aircraft or equipment are not required for upgrade (units are not required to send personnel TDY for core task training).

2.2.2. For units with more than one MDS aircraft, upgrade trainees need only complete core tasks on a single MDS. MFMs, unit commanders, and/or supervisors may require trainees to complete core task training on additional MDSs, if desired. If some of these core tasks involve training in another unit on base, trainees must still complete all core tasks relevant to at least one MDS. All units are bound by the requirements in this CFETP and will accommodate core task trainees from other units.

2.2.3. Units which use the GO81 maintenance data collection system do not need to complete Core Automated Maintenance System (CAMS) Computer Based Training (CBT) core tasks. However, these units must be capable of training CAMS related CBT core tasks for deployment preparation. This capability ensures GO81 users are capable of operating CAMS prior to deploying to CAMS using units.

**2.3. Shows formal training requirements.** Column 4A shows the level to which task/knowledge training is accomplished by the Training Wing for course 2A7X2 as described in the Air Force Education and Training Course Announcements (ETCA). Column 4C lists the level to which task/knowledge training is accomplished by the Training Wing for course 2A774 (7-level school).

2.3.1. When two codes are used in column 4 (e.g. 2b/b), the first code is the established requirement for resident training on the task/knowledge and the second code indicates the level of training (normally a training shortfall) provided in the course due to equipment shortages or other resource constraints. An "x" after the "/" in a proficiency code (e.g. 2b/x) in columns 2a or 2e indicates that no training currently exists on that task. All two-coded proficiency levels are identified to AETC for future course adjustments.

**2.4. Indicates** in column 4B the career knowledge provided in the 5- and 7-level CDC. See ECI/AFSC/CDC listing maintained by the Unit Education and Training Manager (UETM) for current CDCs.

**2.5. Identifies** in column 2, Air Force minimum core task training requirements for award of AFSCs 2A732 and 2A772.

**2.6. Provides** in column 3, OJT certification columns to record completion of task and knowledge training requirements. Certification is accomplished IAW AFI 36-2201 and AFMAN 36-2247.

**2.7. Is a guide** for development of promotion tests used in the Weighted Airman Promotion System (WAPS). Specialty Knowledge Tests (SKTs) are developed at the USAF Occupational Measurement Squadron by senior NCOs with extensive practical experience in their career fields. The tests sample knowledge of STS subject matter areas judged by test development team members as most appropriate for promotion to higher grades. Questions are based upon study references listed in the WAPS catalog. Individual responsibilities are in chapter 14 of AFI 36-2606, *Reenlistment in the United States Air Force*. WAPS is not applicable to the Air National Guard or Air Force Reserve.

**2.8. Becomes a Job Qualification Standard (JQS)** for OJT when placed in the AF Form 623, On-the-Job Training Record, and used according to AFI 36-2201. For OJT, the tasks in column 1 are trained and qualified to the go/no go level. "Go" means the individual can perform the task without assistance and meets requirements for accuracy, timeliness, and correct procedures.

**2.9. Identifies Upgrade Certification Procedures:** Prior to upgrade, all 2A7X2 personnel, regardless of duty position, must satisfactorily complete all upgrade training requirements. Trainees must also meet AFSC requirements outlined in AFI 36-2101 and AFMAN 36-2108, and be task certified on all core tasks. All 7-level trainees must be certified on both 5-level and 7-level tasks and complete the formal 2A772 course for upgrade. Work centers may add local upgrade core tasks and non-mandatory tasks to the JQS. Completion of non-mandatory tasks pertinent to the unit will continue to be accomplished as tasks become available for training. Core tasks identified with an “\*/R” in column 2 are optional for AFRC and ANG. However, these tasks should be completed as a part of continuation training when tasks become available.

**2.10. Outlines Records Documentation Requirements:** Document entries in accordance with AFMAN 36-2247. Identify duty position requirements by circling (in pencil) the subparagraph number next to the task statement. As a minimum, complete the following columns in Part II of the CFETP: date training completed, trainee initials, trainer initials, and certifier initials. Trainers may sign off non-core and non-critical tasks by initialing the trainer’s column; third party certification is not required for non-core and non-critical tasks.

2.10.1. Converting from Old Document to CFETP. CFETPs are used, when available, to identify and certify all past and current qualifications. For core and critical tasks previously certified and required in the current duty position, evaluate current qualifications and, when verified, recertify using current date as completion date and enter trainee and certifier initials. For non-core and non-critical tasks required in the current duty position, evaluate current qualifications and when verified, recertify using current date as completion date and enter trainee’s and trainer’s initials. For previous certification on tasks not required in the current duty position, carry forward only the previous certification date (not the initials of another person). If these tasks become a duty position requirement, recertify using standard certification procedures.

2.10.2. Documenting Career Knowledge. When a CDC is not available, the supervisor identifies CFETP, Part II training references the trainee requires for career knowledge and ensures, as a minimum, that trainers cover the mandatory items in AFMAN 36-2108. For two-time CDC course exam failures, supervisors identify all CFETP, Part II items corresponding to the areas covered by the CDC. The trainee completes a study of references, undergoes evaluation by the

task certifier, and receives certification on the CFETP, Part II. Supervisors must document career knowledge prior to submission of a CDC waiver.

2.10.3. Decertification and Recertification. When a supervisor determines an airman is unqualified on a task previously certified for his or her assigned position, the supervisor lines through the previous certification or deletes previous certification when using an automated system. He/she then enters remarks pertaining to the reason for decertification on the AF Form 623a. The individual is recertified (if required) either by erasing the old entries or covering the task (if task certification was in ink) and writing in the new certification date and initials.

2.10.4. AF Form 797. When additional items not listed in the CFETP, Part II are necessary in the current duty assignment, enter them on the AF Form 797. Additional duties identified by appointment letter where task certification is not accomplished are not documented on the AF Form 797.

**3. Disposition of Training Records.** Upon separation, retirement, commissioning, or promotion to Master Sergeant (unless otherwise directed by the AFCFM, MAJCOM, unit commander, or supervisor), give the individual their training records. Also, give individuals outdated training records after transcribing records. Do not remove any training records that show past qualifications unless transcribed to a new CFETP/AFJQS. For example, a crew chief working in a tool crib or a staff position must maintain documented flightline qualifications in case he/she returns to direct maintenance duty in the workcenter. Supervisors must exercise good judgment when removing training records not needed in current duty positions.

**4. Proficiency Code Keys.** Page 20 indicates level of training and knowledge provided by resident training and career development courses.

**5. Recommendations:** Report unsatisfactory performance of individual course graduates to the AETC training manager at 361 TRS/TRR, 501 Missile Road, Sheppard AFB TX, 76311-2264, DSN 736-3539. Reference specific STS paragraphs. A customer service information line has been installed for the supervisor's convenience to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For a quick response to problems, call our customer service information line, DSN 736-5236, any time, day or night.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

JOHN W. HANDY, Lieutenant General, USAF  
DCS/Installations and Logistics

2 Attachments

1. Proficiency Code Key
2. Specialty Training Standard (STS)

# PROFICIENCY CODE KEY

2A7X2

This Block Is For Identification Purposes Only		
Name Of Trainee		
Printed Name (Last, First, Middle Initial)	Initials (Written)	SSAN
Printed Name Of Training/Certifying Official And Written Initials		
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	

## QUALITATIVE REQUIREMENTS

Proficiency Code Key		
	Scale Value	Definition: The individual
Task Performance Levels	1	<b>IS EXTREMELY LIMITED</b> (Can do simple parts of the task. Needs to be told or shown how to do most of the task.)
	2	<b>IS PARTIALLY PROFICIENT</b> (Can do most parts of the task. Needs only help on hardest parts.)
	3	<b>IS COMPETENT</b> (Can do all parts of the task. Needs only a spot check of completed work.)
	4	<b>IS HIGHLY PROFICIENT</b> (Can do the complete task quickly and accurately. Can tell or show others how to do the task.)
*Task Knowledge Levels	a	<b>KNOWS NOMENCLATURE</b> (Can name parts, tools, and simple facts about the task. )
	b	<b>KNOWS PROCEDURES</b> (Can determine step by step procedures for doing the task. )
	c	<b>KNOWS OPERATING PRINCIPLES</b> (Can identify why and when the task must be done and why each step is needed.)
	d	<b>KNOWS ADVANCED THEORY</b> (Can predict, isolate, and resolve problems about the task.)
**Subject Knowledge Levels	A	<b>KNOWS FACTS</b> (Can identify basic facts and terms about the subject.)
	B	<b>KNOWS PRINCIPLES</b> (Can identify relationship of basic facts and state general principles about the subject.)
	C	<b>KNOWS ANALYSIS</b> (Can analyze facts and principles and draw conclusions about the subject.)
	D	<b>KNOWS EVALUATION</b> (Can evaluate conditions and make proper decisions about the subject.)
Explanations * A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Example: b and 1b)  ** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.  - This mark is used alone instead of a scale value to show that no proficiency training is provided in the courses or CDCs.  / This mark is used in course columns to show that training is required but not given due to limitations in resources (3c/b, 2b/b etc.).  Note: Tasks and knowledge items shown with an asterisk (*) in column one are trained during wartime. The 7-level course is not taught during wartime.		

# SPECIALTY TRAINING STANDARD

2A7X2

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used to Indicate Training/Information Provided (See Atch 1)			
	A	B	A	B	C	D	E	A 3 Skill Level	B CDC		C 7 Skill Level
	5	7	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	Course	5	7	Course
ATTACHMENT 2											
NOTE 1: Items marked with an asterisk (*) in columns 2A and 2B identify specialty wide core task training requirements for upgrade.											
NOTE 2: All tasks and knowledge identified as training requirements in column 4A will be taught during wartime. The 7-level course is not taught during wartime.											
NOTE 3: Users are responsible for annotating training references to identify current references pending STS revision.											
NOTE 4: Address comments and recommended changes through the MAJCOM Functional Managers to the AETC Training Manager, DSN 736-3539.											
A2.1. CAREER LADDER PROGRESSION TR: AFMAN 36-2108											
A2.1.1. Progression in career ladder 2A7X2								A	-	-	-
A2.1.2. Duties of 2A732/2A752								A	-	-	-
A2.2. OPERATIONS SECURITY VULNERABILITIES OF AFSC 2A7X2 TR: AFI 10-1101								A	-	-	-
A2.3. AIR FORCE OCCUPATIONAL SAFETY AND HEALTH TR: AFI 91-302; Applicable AFOSH Standards; MCR 66-5; TO 00-110N-3											
A2.3.1. Hazards of AFSC 2A7X2								A	B	-	-
A2.3.2. AFOSH Standard for AFSC 2A7X2								-	B	-	-
A2.4. HAZARDOUS MATERIALS AND WASTE HANDLING ACCORDING TO ENVIRONMENTAL STANDARDS TR: AFOSH Std 161-21.1W											
A2.4.1. Types of hazardous materials/fluids								B	-	-	-
A2.4.2. Handling procedures								B	-	-	-
A2.4.3. Storage and labeling								B	-	-	-
A2.4.4. Proper disposal								B	-	-	-
A2.5. TECHNICAL PUBLICATIONS TR: AFPD 21-3; TOs 00-5-1, 00-5-2, Applicable -36 TOs											
A2.5.1. Use indexes to locate required technical orders								-	B	-	-
A2.5.2. Use technical orders to perform nondestructive inspections	*							3b	B	-	-
A2.5.3. Maintain technical order files								-	B	-	-
A2.6. SUPPLY MANAGEMENT TR: AFMAN 23-110											
A2.6.1. Obtain information for:											
A2.6.1.1. Special requisitions								-	A	-	-
A2.6.1.2. Issue slips								-	A	-	-
A2.6.1.3. Turn-in slips								-	A	-	-

# SPECIALTY TRAINING STANDARD

2A7X2

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used to Indicate Training/Information Provided (See Atch 1)			
	A	B	A	B	C	D	E	A 3 Skill Level	B CDC		C 7 Skill Level
	5	7	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	Course	5	7	Course
A2.6.2. Prepare equipment authorizations TR: AFMAN 23-110; TAs 002, 285, 455, 460, Fed Log								-	A	-	-
A2.6.3. Maintain supply documentation TR: AFMAN 23-110								-	-	-	-
A2.6.4. Use CAMS supply interface (SBSS) TR: AFCSM 21-563								-	-	-	-
A2.6.5. Manage resources TR: AFMAN 23-110											
A2.6.5.1. Maintain equipment accountability								-	-	-	-
A2.6.5.2. Supplies											
A2.6.5.2.1. Issue								-	-	-	-
A2.6.5.2.2. Establish levels								-	-	-	-
A2.6.5.2.3. Maintain levels								-	-	-	-
A2.7. SUPERVISION AND TRAINING TR: AFMAN 36-2108; AFI 21-101											
A2.7.1. Supervise personnel											
A2.7.1.1. Determine personnel requirements								-	-	-	-
A2.7.1.2. Orient new personnel								-	-	-	-
A2.7.1.3. Interpret/implement policies, directives or procedures for subordinates								-	-	-	-
A2.7.2. Train personnel											
A2.7.2.1. Determine training requirements								-	-	-	-
A2.7.2.2. Assign OJT trainers or supervisors								-	-	-	-
A2.7.2.3. Maintain records								-	-	-	-
A2.7.2.4. OJT trainer requirements											
A2.7.2.4.1. Prepare teaching outlines or task breakdowns								-	-	-	-
A2.7.2.4.2. Provide trainees theory and train on actual equipment								-	-	-	-
A2.7.2.4.3. Provide feedback on training provided								-	-	-	-
A2.7.2.5. OJT task certifier requirements											
A2.7.2.5.1. Develop methods of evaluation to determine trainee knowledge/qualification and training effectiveness								-	-	-	-
A2.7.2.5.2. Use appropriate method of evaluation and effectively determine trainee's ability								-	-	-	-
A2.7.2.5.3. Provide supervisor and trainer feedback on results of training provided, and trainee's strengths and/or weaknesses								-	-	-	-



# SPECIALTY TRAINING STANDARD

2A7X2

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used to Indicate Training/Information Provided (See Atch 1)			
	A	B	A	B	C	D	E	A 3 Skill Level	B CDC		C 7 Skill Level
	5	7	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	Course	5	7	Course
A2.7.3. Plan/Schedule maintenance and repair work											
A2.7.3.1. Analyze workload requirements								-	-	-	-
A2.7.3.2. Coordinate with other agencies								-	-	-	-
A2.7.3.3. Determine/Establish priorities								-	-	-	-
A2.7.3.4. Adjust daily maintenance plans to meet operational commitments								-	-	-	-
A2.8. MAINTENANCE AND INSPECTION											
A2.8.1. Maintenance levels TR: AFI 21-101; AFI 21-114								A	B	-	-
A2.8.2. Inspection systems TR: AFI 21-101; AFI 21-114; TO 00-20 series								A	B	-	-
A2.8.3. Quality deficiency reporting system TR: TO 00-35D-54								-	B	-	-
A2.8.4. Automated Maintenance Data Collection Systems											
A2.8.4.1. Core Automated Maintenance System (CAMS)								-	B	-	-
A2.8.4.2. GO 81								-	B	-	-
A2.8.4.3. Integrated Maintenance DataSystem (IMDS)								-	B	-	-
A2.8.5. Use CAMS TR: AFCSM 21 series; TO 00-20 series											
A2.8.5.1. Open discrepancies	*							1a	-	-	-
A2.8.5.2. Close discrepancies	*							1a	-	-	-
A2.8.5.3. Access applicable CAMS menus and data screens								-	-	-	-
A2.8.5.4. Complete course J6AZU2E066-058	*/R							-	-	-	-
A2.8.5.5. Complete course J6AZU2E066-062		*/R						-	-	-	-
A2.8.6. Use GO 81 TR: 80-81/SBSS Systems Interface Users Guide											
A2.8.6.1. Open discrepancies	*							-	-	-	-
A2.8.6.2. Close discrepancies	*							-	-	-	-
A2.8.6.3. Access applicable menus and data screens								-	-	-	-
A2.8.7. Use IMDS TR: TO 00-20 series											
A2.8.7.1. Open discrepancies	*							-	-	-	-

# SPECIALTY TRAINING STANDARD

2A7X2

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used to Indicate Training/Information Provided (See Atch 1)			
	A	B	A	B	C	D	E	A 3 Skill Level	B CDC		C 7 Skill Level
	5	7	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	Course	5	7	Course
A2.8.7.2. Close discrepancies	*							-	-	-	-
A2.8.7.3. Access applicable menus and data screens								-	-	-	-
A2.8.8. Use Process Control Automated Maintenance System (PCAMS) TR: TO 33B-1-1								-	-	-	-
A2.8.9. Use/maintain hand tools								-	-	-	-
A2.8.10. Consolidated Tool Kit (CTK) procedures and documentation								-	-	-	-
A2.9. AEROSPACE CONSTRUCTION FEATURES TR: Applicable -3 and -36 TOs											
A2.9.1. Major components								A	B	-	-
A2.9.2. Reference line definitions								A	B	-	-
A2.9.3. Aircraft markings								A	B	-	-
A2.10. BASIC METALLURGY TR: TOs 1-1A-1, 1-1A-9, 33B-1-1											
A2.10.1. Properties of metal											
A2.10.1.1. Physical								A	B	-	-
A2.10.1.2. Mechanical								A	B	-	-
A2.10.2. Classification of metals								A	B	-	-
A2.10.3. Types of discontinuities											
A2.10.3.1. Manufacturing								A	B	-	-
A2.10.3.2. Service								A	B	-	-
A2.11. OPTICAL EVALUATION TR: Equipment manuals; Applicable -36 TOs for aircraft assigned											
A2.11.1. Use optical equipment to evaluate indications	*							2b	B	-	-
A2.11.2. Perform operator maintenance								a	B	-	-
A2.12. LIQUID PENETRANT INSPECTION METHOD TR: Equipment manuals; Mil Stds; TO 33B-1-1; -36 TOs; Applicable equipment TOs											
A2.12.1. Fundamentals of liquid penetrant inspection											
A2.12.1.1. Method A								A	B	-	-
A2.12.1.2. Method B								A	B	-	-
A2.12.1.3. Method C								B	B	-	-

# SPECIALTY TRAINING STANDARD

2A7X2

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used to Indicate Training/Information Provided (See Atch 1)			
	A	B	A	B	C	D	E	A 3 Skill Level	B CDC		C 7 Skill Level
	5	7	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	Course B	5 B	7 -	Course -
A2.12.1.4. Method D											
A2.12.2. Inspect parts using											
A2.12.2.1. Method A								-	-	-	-
A2.12.2.2. Method B								-	-	-	-
A2.12.2.3. Method C	*							2b	B	-	-
A2.12.2.4. Method D	*							2b	B	-	-
A2.12.3. Interpret indications	*							2b	B	-	-
A2.12.4. Process control	*							2b	B	-	3c
A2.12.5. Perform operator maintenance								a	B	-	-
A2.13. MAGNETIC PARTICLE INSPECTION METHOD TR: Equipment manuals; Mil Stds											
A2.13.1. Fundamentals of magnetic particle inspection								B	B	-	-
A2.13.2. Inspect parts											
A2.13.2.1. Using circular magnetism	*							2b	B	-	-
A2.13.2.2. Using longitudinal magnetism	*							2b	B	-	-
A2.13.2.3. Demagnetize part	*							2b	B	-	-
A2.13.3. Interpret indications	*							2b	B	-	-
A2.13.4. Process control	*							2b	B	-	3c
A2.13.5. Perform operator maintenance								a	B	-	-
A2.14. EDDY CURRENT INSPECTION METHOD TR: Equipment manuals; Equipment TOs; Mil Stds; TO 33-B-1-1; -36 TOs											
A2.14.1. Fundamentals of eddy current inspection								B	B	-	-
A2.14.2. Use standards	*							2b	B	-	3c
A2.14.3. Principles of Impedance Plane Analysis								B	B	-	-
A2.14.4. Inspect parts using											
A2.14.4.1. impedance testing	*							2b	B	-	-
A2.14.4.2. conductivity testing								2b	B	-	-
A2.14.4.3. Perform Impedance Plane Analysis	*							2b	B	-	3c
A2.14.5. Interpret indications											
A2.14.5.1. Impedance testing	*							2b	B	-	-
A2.14.5.2. Impedance Plane Analysis	*							2b	B	-	3c
A2.14.6. Perform operator maintenance								a	B	-	-

# SPECIALTY TRAINING STANDARD

2A7X2

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used to Indicate Training/Information Provided (See Atch 1)			
	A	B	A	B	C	D	E	A 3 Skill Level	B CDC		C 7 Skill Level
	5	7	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	Course	5	7	Course
A2.15. ULTRASONIC INSPECTION METHOD TR: Equipment manuals; Equipment TOs; Mil Stds; TO 33B-1-1; -36 TOs											
A2.15.1. Fundamentals of ultrasonics								B	B	-	-
A2.15.2. Use standards	*							2b/1a	B	-	3c
A2.15.3. Inspect parts using:											
A2.15.3.1. Longitudinal wave	*							2b/1a	B	-	3c
A2.15.3.2. Shear wave	*							2b/1a	B	-	3c
A2.15.3.3. Surface wave								-	B	-	-
A2.15.4. Interpret indications	*							2b/1a	B	-	3c
A2.15.5. Perform operator maintenance								a	B	-	-
A2.15.6. Process control	*							2b	B	-	3c
A2.16. BOND TESTING METHOD TR: Equipment manuals; Equipment TOs; Mil Stds; TO 33B-1-1; -36 TOs											
A2.16.1. Fundamentals of bond testing								B	B	-	-
A2.16.2. Use standards	*							2b	B	-	3c
A2.16.3. Inspect parts using:											
A2.16.3.1. Tap test								-	B	-	-
A2.16.3.2. Ultrasoncis								2b	B	-	3c
A2.16.3.3. Mechanical Impedance Analysis (MIA)	*							2b	B	-	3c
A2.16.3.4. Resonance	*							2b	B	-	3c
A2.16.3.5. Pitch-Catch	*							2b	B	-	3c
A2.16.4. Interpret indications								2b	B	-	3c
A2.16.5. Perform operator maintenance								a	B	-	-
A2.17. COMPOSITE COMPONENT INSPECTION METHOD TR: Mil Stds; TO 33B-1-1; -36 TOs; Applicable equipment TOs											
A2.17.1. Fundamentals of composite structures								B	B	-	B
A2.17.2. Use standards	*							2b	B	-	3c
A2.17.3. Inspect parts using:											
A2.17.3.1. Pulse echo								2b	B	-	3c
A2.17.3.2. Through transmission								2b	B	-	3c
A2.17.4. Interpret indications								2b	B	-	3c

# SPECIALTY TRAINING STANDARD

2A7X2

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used to Indicate Training/Information Provided (See Atch 1)			
	A	B	A	B	C	D	E	A 3 Skill Level	B CDC		C 7 Skill Level
	5	7	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	Course	5	7	Course
A2.18. RADIOGRAPHIC INSPECTION METHOD TR: Applicable AFIs; Mil Stds; TO 33B-1-1; -36 TOs; Applicable equipment TOs											
A2.18.1. Fundamentals of radiography								B	B	-	-
A2.18.2. Digital Filmless Radiography								-	-	-	-
A2.18.3. Radiation safety											
A2.18.3.1. Personnel exposure levels								B	B	-	-
A2.18.3.2. Use radiation detection devices	*							2c	B	-	-
A2.18.3.3. Protection requirements								B	B	-	-
A2.18.3.4. Use radiation hazard markings	*							2c	B	-	-
A2.18.4. Principles of silver recovery								A	B	-	-
A2.18.5. Precious metals recovery program								A	B	-	-
A2.18.6. Inspect parts											
A2.18.6.1. Set up equipment	*							2b	B	-	-
A2.18.6.2. Select film								2b	B	-	-
A2.18.6.3. Use image quality indicators								2b	B	-	-
A2.18.6.4. Use image quality enhancers								2b	B	-	-
A2.18.6.5. Make exposure corrections								2b	B	-	-
A2.18.6.6. Develop film	*							2b	B	-	-
A2.18.6.7. Operate equipment	*							2b	B	-	-
A2.18.7. Interpret indications	*							2b	B	-	3c
A2.18.8. Perform operator maintenance	*							2b	B	-	-
A2.18.9. Process control	*							2b	B	-	-
A2.18.10. Perform Weld Certification								-	B	-	-
A2.19. TECHNIQUE DEVELOPMENT TR: TO 33B-1-1											
A2.19.1. Select inspection method								-	B	-	3c
A2.19.2. Develop inspection method								-	B	-	3c
A2.19.3. Record inspection technique								-	B	-	3c
A2.20. SPECTROMETRIC OIL ANALYSIS TR: AF1 21-124; TOs 33-1-37, applicable equipment TOs											
A2.20.1. Aircraft engine familiarization								-	-	-	-
A2.20.2. Fundamentals of oil analysis								B	B	-	-

## 2A7X2

Attachment 2

## ***Section B - Course Objective List***

**4. Measurement.** Each proficiency coded STS task or knowledge item taught at the technical school is measured through the use of an objective. An objective is a written instruction for the student so he or she knows what is expected of them to successfully complete training on each task. Each objective consists of a condition, behavior, and standard which states what is expected of the student for each task. The condition is the setting in which the training takes place. The behavior is the action a student must demonstrate to accomplish a task (i.e. remove and install wheel and tire assembly). The standard is the level of performance that is measured to ensure the STS proficiency code level is attained. Each objective uses letter code(s) to identify how it is measured. All objectives use the **PC** code which indicates a progress check is used to measure subject or task knowledge. Progress checks are also used to measure student accomplishment of performance objectives. **W** indicates a comprehensive written test and is used to measure the subject and/or task knowledge at the end of a block of instruction. **PC/W** indicates separate measurement of both knowledge and performance elements using a written test and a performance progress check.

**5. Standard.** The standard is 70% on written examinations. Standards for performance measurement are indicated in the objective and delineated on the individuals progress checklist. The checklist is used by the instructor to document each students progress on each task. Instructor assistance is provided as needed during the progress check, and students may be required to repeat all or part of the behavior until satisfactory performance is attained. Students must satisfactorily complete all PCs prior to taking the written test.

**6. Proficiency Level.** Most task performance is taught to the "2b" or "3c" proficiency level. The "2b" means the student **can do most parts of the task**, but does need assistance on the hardest parts of the task (**partially proficient**). The student can also determine step by step procedures for doing the task. The "3c" means the student **can do all parts of the task** but may need a spot check of completed work (**competent**). The student should be able to identify why and when the task must be done and why each step is needed.

**7. Course Objectives.** If you require detailed course descriptions and objectives, please provide a written request to the AETC Training Manager, 361 TRS/TRR, 501 Missile Road, Sheppard AFB TX 76311-2264.

### ***Section C - Support Material***

**8.** The following list of support material is not all inclusive; however, it covers the most frequently referenced areas. Support material is any training package designed to enhance the learning process at any level of training. Refer to the Air Force Education and Training Course Announcements (ETCA) for information on AETC formal courses.

8.1. The following Interactive Courseware (ICW) is available from or under development by 367 TRS/TRSS at Hill AFB, Utah. To obtain more information about each course, request a copy of the Courseware Catalog from AETC/TRSS, 6058 Aspen, Building 1295, Hill AFB UT 84056-5805. Their FAX number is DSN 777-0897 and their customer service number is DSN 777-0160. To request ordering information on hardware, your MAJCOM training POC (for ACC, AMC, and ANG) is the first stop. For personnel under other MAJCOMs, you contact them directly; they will provide you the information required for purchasing the item through them. If you decide to purchase the system, they will FAX you the AF Form 616 to use for an example. The 367 TRSS internet site is: <http://www.hill.af.mil/367TRSS/findex.htm>.

<b>COURSE NUMBER</b>	<b>COURSE TITLE</b>	<b>OPR</b>
52CPB0411	B-52H Engine Oil Analysis	367 TRSS
00TIV1001	Joint Oil Analysis Program (JOAP) (CD-ROM)	367 TRSS
00TIV0003	NDI/NDT	367 TRSS

### ***Section D - Training Course Index***

**9. Purpose.** This index lists Air Force resident, ECI, and exportable courses used to support training for this specialty. Refer to the Air Force Education and Training Course Announcements (ETCA) for information on AETC formal courses listed below.

#### **9.1. Air Force In-Resident Courses:**

<b>COURSE NUMBER</b>	<b>COURSE TITLE</b>	<b>OPR</b>
J3ABP2A732 000	Nondestructive Inspection Apprentice	361 TRS/Det 2
J3ACP2A772 000	Nondestructive Inspection Craftsman	361 TRS/Det 2
J3AZP2A752 000	DoD Joint Oil Analysis (JOAP)	361 TRS/Det 2



<b>COURSE NUMBER</b>	<b>COURSE TITLE</b>	<b>OPR</b>
J3AZP2A752 003	DoD JOAP (Physical Properties)	361 TRS/Det 2
J3AZP2A752 004	DoD JOAP (Ferrography)	361 TRS/Det 2
J3AZP2A752 006	Penetrant/Magnetic Particle and Radiographic Techniques	361 TRS/Det 2
J3AZP2A752 007	Ultrasonics/Phase Amplitude	361 TRS/Det 2

## 9.2. Extension Course Institute (ECI) Courses:

<b>COURSE NUMBER</b>	<b>COURSE TITLE</b>	<b>OPR</b>
CDC 2A752	Nondestructive Inspection Journeyman	361 TRS/Det 2
CDC 2AX7X	Aerospace Maintenance Craftsman	HQ USAF/ILMM

## 9.3. Exportable Courses.

<b>COURSE NUMBER</b>	<b>COURSE TITLE</b>	<b>OPR</b>	<b>MEDIA</b>
J6ANU2E066-038	AF Technical Order System (General)	362 TRS	CBT
J6ANU2E066-039	AF Technical Order System (Advanced)	362 TRS	CBT
J6AZU2E066-058	AF Maint Data Collection System (CAMS)	362 TRS	CBT
J6AZU2E066-059	AF Maint Data Collection System (CAMS) (781 Forms)	362 TRS	CBT
J6AZU2E066-061	Core Automated Maint System (CAMS) Introduction	362 TRS	CBT
J6AZU2E066-062	Core Automated Maint System (Mid-Level Maint Manager)	362 TRS	CBT
J6AZU2E066-063	Core Automated Maint System (Senior Level Maint Manager)	362 TRS	CBT

#### 9.4. Courses Under Development/Revision:

COURSE NUMBER	COURSE TITLE	OPR
J3ABP2A732 000	Nondestructive Inspection Apprentice	361 TRS/Det 2
J3ACP2A772 000	Nondestructive Inspection Craftsman	361 TRS/Det 2
J3AZP2A752 000	DoD Joint Oil Analysis Program (JOAP)	361 TRS/Det 2
J3AZP2A752 003	DoD JOAP (Physical Properties)	361 TRS/Det 2
J3AZP2A752 004	DoD JOAP (Ferrography)	361 TRS/Det 2
J3AZP2A752 006	Penetrant/Magnetic Particle and Radiographic Techniques	361 TRS/Det 2
J3AZP2A752 007	Ultrasonic and Phase Amplitude	361 TRS/Det 2

#### *Section E - MAJCOM Unique Requirements.*

**10.** Currently, only Air Combat Command has a MAJCOM mandatory course list (MMCL). MAJCOMs change mandatory course requirements occasionally. Up-to-date ACC requirements can be obtained at <http://www.acclog.af.mil/lgq/lgqt/98mmcl.doc>. Refer to the HQ ACC MMCL for additional information. The below requirements are current as of 28 Aug 98.

NOTE: As of 8 Sep 99, there are no mandatory MAJCOM course requirements for the 2A7X2 career field.

COURSE NUMBER	COURSE TITLE	MDS
2A3X3B-035	F-16 Tactical Aircraft Maintenance	F-16
2A3X3B-036	Advanced Crew Chief	F-16
2A6X1A-101	Tactical Aircraft Maintenance (F110-GE-129 Removal/Installation) (O/M)	F-16
2A6X1A-133	Tactical Aircraft Maintenance (F110-GE-100 Removal/Installation) (O/M)	F-16
2A3X3B-025	F-117 Tactical Aircraft Maintenance (Cross)	F-117